

Amendments to the Claims:

Claims 1-15. (Cancelled)

16. (Currently amended) A method of forming a preform for use in forming a structural member, the method comprising:

determining desired dimensions of the structural member;

providing a base member according to the dimensions of the structural member;

spraying particles of a structural material on the base member such that the structural material is disposed on the base member to form the preform; and

subsequent to said spraying step, plastically deforming the preform according to the dimensions of the structural member such that the preform has dimensions approximating the desired dimensions of the structural member, wherein said plastically deforming step comprises deforming at least the base member.

17. (Original) A method according to Claim 16 further comprising processing the preform after said spraying step, wherein said processing step comprises a material treatment selected from the group consisting of hot isostatic pressing, heat treating, aging, quenching, stretching, annealing, and solution annealing.

18. (Original) A method according to Claim 16 wherein said spraying step comprises directing a stream of the particles in a gas comprising hydrogen, and further comprising subjecting the structural material to a sub-atmospheric pressure after said spraying step to thereby releasing hydrogen from the structural material.

19. (Original) A method according to Claim 16 further comprising providing the particles of the structural material, the particles comprising titanium.

20. (Original) A method according to Claim 16 wherein said spraying step comprises directing a mixed stream of gas and particles of the structural material toward the base member such that the structural material is deposited on the base member, the mixed stream having a temperature sufficiently low to prevent melting of the structural material.

21. (Cancelled)

22. (Cancelled)

23. (Original) A method according to Claim 16 wherein said plastically deforming step comprises heating the preform.

24. (Original) A method according to Claim 16 wherein said plastically deforming step comprises urging the preform against a forming surface of at least one die and thereby forging the preform.

25. (Original) A method according to Claim 16 wherein said plastically deforming step comprises refining the grain size of the preform.

26. (Currently amended) A method of forming a preform for use in forming a structural member, the method comprising:

determining desired dimensions of the structural member;

providing a base member according to the dimensions of the structural member;

spraying particles of a structural material on the base member such that the structural material is disposed on the base member to form the preform; ~~and~~

subjecting the preform to a sub-atmospheric pressure; and

subsequent to said subjecting step, cold isostatically pressing the preform to reduce a porosity of the preform.

27. (Original) A method according to Claim 26 further comprising substantially sealing the preform in a membrane before said cold isostatically pressing step.

28. (Original) A method according to Claim 26 further comprising:

providing hydrogen gas to the preform after said subjecting step such that the preform absorbs the hydrogen gas; and

subsequent to said cold isostatically pressing step, heating the preform and subjecting the preform to a sub-atmospheric pressure, thereby releasing hydrogen from the preform.

29. (Currently amended) A method of forming a structural member, comprising:  
determining desired dimensions of the structural member;  
providing a base member according to the desired dimensions of the structural member;  
spraying particles of a structural material on the base member such that the structural material is disposed on the base member to form the preform, the preform having dimensions approximating the desired dimensions of the structural member, wherein said spraying step comprises directing a stream of the particles in a gas comprising hydrogen; and  
thereafter, machining the preform to remove excess material from the preform to form the structural member having the predetermined desired dimensions; and  
heating the preform and subjecting the preform to a sub-atmospheric pressure, thereby releasing hydrogen from the structural material of the structural member.

30. (Original) A method according to Claim 29 further comprising processing the preform after said spraying step, wherein said processing step comprises a material treatment selected from the group consisting of hot isostatic pressing, heat treating, aging, quenching, stretching, annealing, and solution annealing.

31. (Original) A method according to Claim 29 wherein said spraying step comprises directing a mixed stream of gas and particles of a structural material toward the base member such that the structural material is deposited on the base member, the mixed stream having a temperature sufficiently low to prevent melting of the structural material.

Claims 32-35. (Cancelled)

36. (New) A method of forming a preform for use in forming a structural member, the method comprising:  
determining desired dimensions of the structural member;  
providing a mold corresponding to the dimensions of the structural member;  
spraying particles of a structural material on the mold by directing a mixed stream of gas and particles of the structural material toward the mold such that the structural material is

Appl. No.: 10/689,237

Amdt. dated 03/22/2006

Reply to Office Action of 01/12/2006

deposited on the mold, the mixed stream having a temperature sufficiently low to prevent melting of the structural material;

removing the structural material from the mold after said spraying step such that the structural material comprises the preform; and

plastically deforming the preform according to the dimensions of the structural member such that the preform has dimensions approximating the desired dimensions of the structural member.